

The present invention provides a method for quantitatively determining hydrogen sulfide or sulfide ions conveniently with high sensitivity, which comprises adding to a sample containing hydrogen sulfide or sulfide ions, metal ions or a compound which liberates said metal ions and a metal indicator which reacts with the metal ions and resultingly undergoes color development, wherein the color development is accelerated or inhibited by the hydrogen sulfide or sulfide ions; and measuring the degree of color development of the metal indicator. The present invention further provides a method for quantitatively determining a specific substance, which comprises adding to a sample containing a specific substance, a component which acts on the specific substance so that the specific substance forms hydrogen sulfide or sulfide ions, metal ions or a compound which liberates said metal ions, and a metal indicator which reacts with the metal ions and resultingly undergoes color development, wherein the color development is accelerated or inhibited by the hydrogen sulfide or sulfide ions; and measuring the degree of color development of the metal indicator.